MONO COUNTY GENERAL PLAN DRAFT EIR

SECTION 5

CUMULATIVE EFFECTS

5.1 INTRODUCTION

CEQA Guidelines §15130(a) requires an EIR to analyze whether impacts resulting from a proposed project are cumulatively considerable; in turn, §15355 defines a cumulative impact as "*two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts*." This chapter identifies cumulative impacts that could result in association with implementation of the *RTP/General Plan Update*. Cumulative impacts comprise the range of environmental changes that could occur in response to the incremental effect of the proposed project plus other closely related past, present and/or reasonably foreseeable future projects, including individually minor but collectively significant effects that may occur over time.

5.2 METHOD OF ANALYSIS

CEQA Guidelines §15130(b) states that the discussion of cumulative effects must "*reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone*." Two methods are identified for the assessment of cumulative effects:

- A list of past, present and probable future projects producing related or cumulative impacts (including, if necessary, projects outside the control of Mono County); or
- A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that evaluates conditions contributing to the cumulative effects (for example, a general plan, an RTP, or prior CEQA assessments).

The proposed *RTP/General Plan Update* and related planning initiatives embody a wide-ranging review and assessment of past, present and future projects and associated environmental effects, including consideration of plans and projections developed by regional, state and federal agencies. Moreover, because the *Draft 2015 General Plan Land Use Element* proposes only minor changes from the land use designations shown in the *2001 General Plan,* it is not anticipated that the project would increase the level of build-out development. For these reasons, the analysis provided in this section is based on an assessment of foreseeable future projects that may, in combination with the proposed Mono County *RTP/General Plan Update,* result in impacts that compound or increase other environmental effects.

5.3 CUMULATIVE PROJECT CONSIDERED IN THIS SECTION

One potential future project is considered in this section:

- Future implementation of a program whereby water rights holders in Bridgeport Valley and Antelope Valley sell all or part of their water entitlements for use in restoring the Walker Basin in Nevada.

5.3.1 Water Transfer Program

5.3.2.1 Background

In 2005, Congress enacted legislation to restore Walker Lake in Nevada. Walker Lake is a 'closed' basin, located at the basin's lowest point, with no outflow or discharge except through evaporation. The program would involve acquisition of water rights from willing sellers in the Walker Basin watershed. The Walker River Basin covers about 4,000 square miles in west-central Nevada and eastern California, flowing from its headwaters at the East Walker River and the West

Walker River in the Sierra Nevada, to its terminus at Walker Lake in western Nevada. The California portion represents about 25% of the basin, and accounts for the majority of precipitation and surface water flows; the majority of consumptive use occurs in Nevada.

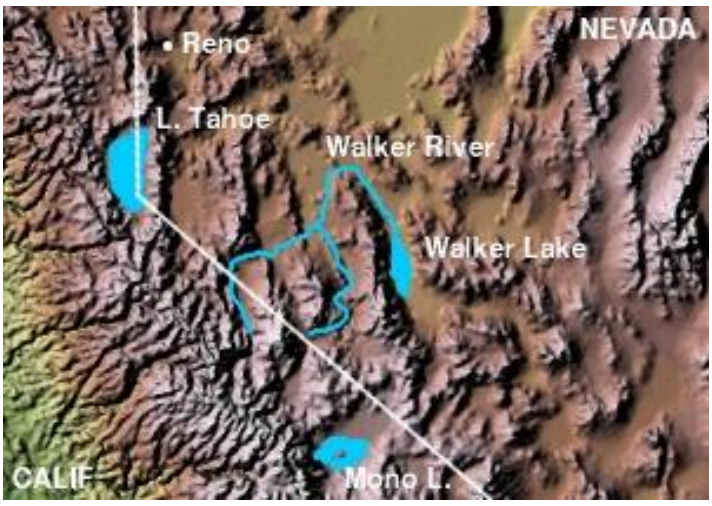

FIGURE 5-1. Walker River Basin

Legal protections for the water resources of Walker Basin began with a 1963 agreement between the California Department of Fish and Wildlife (CDFW) and the Walker River Irrigation District (WRID). The agreement allowed for enlargement of Bridgeport Reservoir, provided WRID would maintain a minimum pool of 1,500 acre-feet/year (AFY) during years when conditions allowed, and a minimum instream flow of the lesser of 50 cubic-feet/second (cfs), or the natural flow on the East Walker River. Despite the protections afforded by the 1963 agreement, the base elevation of Walker Lake has since declined by about 150 feet, salinity levels have continued to rise (from about 2,500 milligrams/liter (mg/l) to more than 17,000 mg/l), and ecological values have been increasingly compromised.

The 2005 legislation (PL 109-103) created the Desert Terminal Lakes Program, including funding to support needed studies. Using funds created through the legislation, the University of Nevada in 2007 began collaborating with the Desert Research Institute on a wide-ranging research program to provide information for the restoration project, including the possible acquisition or leasing of water rights in the watershed. The main objective of the research program is to develop hydrologic, ecologic, economic and agricultural data as needed to inform program decisions. The program will support acquisition and leasing of water from willing sellers, as well as associated conservation, stewardship and research activities.

The Walker Basin Restoration Program was established by Congress as part of Public Law 111-85 in October 2009. The Program's core purpose is to restore and maintain Walker Lake, a natural desert lake in Nevada at the terminus of the Walker River stream system of Nevada/California. The program is managed by the National Fish and Wildlife Foundation (NFWF), a federally chartered nonprofit organization established in 1984 to further the conservation and management of the nation's fish, wildlife, plant and habitat resources for present and future generations. Through the program, NFWF is seeking to increase instream flows to Walker Lake and to balance the interests of landowners, water-user organizations, Native American tribes, local governments, state and federal agencies, and nonprofit organizations through a comprehensive basin-wide strategy.

The strategy includes voluntary water transactions and water management initiatives; community-based conservation and stewardship; and applied research and demonstration projects. As of mid-2014, the program had acquired more than 60 cfs of decree water rights, 5,570 acre-feet (AF) of storage water rights, 9,870 AF of groundwater rights, and over 6,300 acres of land from willing sellers for a cost of about $45 million. For ease of reference, a table is provided below (and also provided in EIR §4.8, Hydrology) with conversion factors for the terms used in this section:

CONVERSION FACTORS

1 million gallons per day (mgd) = 1.547 cubic-feet per second (cfs)
1 mgd = 3.08 Acre-Feet per Day = 1,123.4 AF per Year (AFY)
1 acre-foot (AF) = 43,560 cubic-feet = 324,900 gallons
1 cfs = 450 gallons per minute = 1.983 AF per 24 hours = .646 mgd
1 AF is about the amount of water needed to supply a family of 4 for 1 year

5.3.2.2 Water Transfer Transactions in Mono County

The analysis of potential transactions in California is being spearheaded by the Resource Conservation District (RCD) of Mono County. The RCD is working with both NFWF and Mono County to advance discussion of the County's potential participation in the water transactions component of the Walker Basin Restoration Program.

In 2012, NFWF and Mono County signed a Memorandum of Understanding to move forward with exploration of expanding the water transaction program into California. Key elements of the Memorandum include:

- *The Mono County Board of Supervisors ("Board") will review, comment on and consider approval of a proposal to implement a short-term Water Leasing Demonstration Program in Mono County as well as other programs, including development of appropriate policies for the General Plan and CEQA review as needed;*
- *The Board will retain discretion to conditionally approve, approve, disapprove or modify any proposal presented to it under the California Program;*
- *NFWF will work to develop grant agreements to support the California Programs, and will not authorize the lease or purchase of water or land until the Mono County Board has completed its review;*
- *NFWF will reimburse Mono County for the costs of processing, environmental review and related expenses pertaining to the Program; and*
- *The MOU will remain effective for the duration of NFWF's grant agreement with the Bureau of Reclamation.*

During 2014, the RCD prepared, and provided to Mono County for review and comment, a preliminary Feasibility Assessment to identify potential impacts of the Water Transfer Program that may conflict with policies and goals identified in the Mono County General Plan. The Feasibility Assessment does not identify specific flow volumes proposed to be transferred from Mono County to Walker Lake in Nevada. However, volumes mentioned in prior communications have ranged from 25,000 AFY (cited in a written communication from California Department of Fish and Wildlife to the State Water Resources Control Board) to 50,000 AFY (cited in communications between Mono County and NFWF).

5.3.2.3 Potential Cumulative Impacts

Potential cumulative impacts of the Water Transfer Program, as identified in the 2014 Feasibility Study prepared by the RCD, are summarized in Table 5-2:

TABLE 5-2: Potential Cumulative Effects of the Water Transfer Program

TOPICAL ISSUE	POTENTIAL EFFECTS
Agricultural and Forestry Resources	Landowners who permanently transfer irrigation water rights may seek entitlements to subdivide the property or use the property for other nonagricultural purposes. The Mono County General Plan specifically identifies the need to avoid conversion to non-agricultural use unless such conversion enhances other critical resource values.
	Decreases in the amount or timing of water flowing through irrigation ditches may reduce stock-water availability for grazing.

Aesthetic and Scenic Values	Permanent cessation of irrigation may lead to a change of habitat type from meadows to drier sagebrush vegetation. This transition may impact aesthetic and scenic values in the Walker River watershed.
	The loss of meadow habitat may impact scenic values on an estimated 6,000 acres in Bridgeport Valley, and 1,300 acres in Antelope Valley, thereby impacting tourism.
Biological Resources	The entire study area is recognized as important habitat for the Bi-State greater sage-grouse; permanent cessation or other changes in irrigation may reduce habitat viability and thus the Bi-State greater sage grouse population in Mono County.
	Preliminary review indicates at least 11 plant species designated as rare or threatened may be in the transfer area and subject to impacts associated with reduced water availability.
	Wetland delineations are required to assess potential impacts on wetland habitat.
	A release in storage water may lower surface water levels in some reservoirs (most notably Twin Lakes Reservoir) to a point that would adversely impact fishery values, including the cutthroat trout and other native fish populations.
	Irrigation management changes may favor invasive nonnative plant materials.
	Irrigation changes may conflict with conservation easement requirements for some properties.
Cultural Resources	Potential impacts to cultural resources were not considered in the RCD feasibility assessment.
Hydrology and Water Quality	No information is currently available about the interaction between groundwater and surface waters in the Bridgeport Valley. Characterization of hydrologic conditions (possibly including short-term pilot studies) will be undertaken during the Mono County CEQA review. While wetlands are present throughout Mono County, the communities of Bridgeport and June Lake have been found in the *RTP/General Plan Update* biological assessment to have a high percentage of plant species that are classified by federal regulators as wetland species. Both of these communities (along with Antelope Valley and the Tri-Valley area) are considered to be high-hazard flood zones, indicating that the loss of wetlands would have potential to impact flood risk.
Land Use and Planning	Irrigation changes may conflict with conservation easement requirements for some properties and may conflict with policies of the Mono County General Plan.
	The transfer of water supplies out of Mono County may impact ability to meet future water demands for domestic consumption, fire suppression, conservation and other planned uses.
Recreation	Lower surface water levels may adversely impact tourism and recreational values in some reservations and downstream areas.

5.3.3.4 Current Status and Future Steps

As of 2015, Mono County is in the process of requesting grant funding from NFWF to undertake a CEQA review and other studies to independently analyze the Water Transfer Program as needed for the Board to review, comment upon and consider approval of the program in Mono County. The studies will include development of General Plan policy proposals to guide the water transactions, if undertaken, and to reduce the impact of project implementation on Mono County resources. The County's scope of work may include one or more short-term demonstration projects. Mono County anticipates that CEQA documentation will be available for public review and comment during 2017.

5.3.3 Water Reclamation and Landfill Closure

In its comments responding to the Notice of EIR Preparation, the Lahontan Regional Water Quality Control Board (LRWQCB) requested that the EIR consider the point impacts of all General Plan components including the impacts to groundwater resources of increased impervious surfaces and compacted soils, changed watershed hydrology and flood

risk, impacts on beneficial uses such as wildlife habitat, and impacts to habitat connectivity in watersheds, with mitigation measures to reduce impacts to less than significant levels. LRWQCB recommended that Mono County consider the use of water reclamation as General Plan implementation strategy, and also requested consideration of the cumulative effects associated with closure of existing landfills.

EIR §4.8 (Hydrology) notes that although surface waters in Mono County are generally of very high quality, a number of issues may in the future jeopardize water quality and supply including, most notably, emerging evidence of earlier snow melt and/or less snowfall during spring. Eight water bodies in Mono County are included on the list of impaired water bodies. A widespread lack of information has been identified in the management plans prepared for Mono County watersheds including, for the West Walker River watershed (as an example): a) insufficient water quality data to evaluate trends and identify most sources of contaminants; b) the watershed sediment budget is insufficiently understood to implement a total maximum daily loads (TMDL) program; c) nutrient cycling, retention, and release on Antelope Valley agricultural lands are insufficiently understood to know whether a significant pollution problem exists and what changes in practices would be most effective; d) Antelope Valley stream-groundwater interactions are insufficiently understood to predict the effects of increased groundwater pumping; e) the long-term reliability of septic systems with respect to contamination of nearby wells and streams is unknown; and f) the hydrologic and ecologic effects of climatic variability and potential trends in climate within the Upper Owens River watershed are unknown and warrant contingency planning. A number of Mono County communities have identified uncertain future water availability as a concern for fire safety as well as domestic consumption associated with planned growth. In whole, EIR §4.8 concludes that project approval would have potentially significant adverse impacts on water quality, compliance with waste discharge requirements, water supply, and drainage and erosion.

With respect to impacts associated with operation and closure of existing landfills, a large body of information is available indicating that unlined sanitary landfills release potentially significant amounts of harmful chemicals to underlying soils and groundwater, and that such releases may include potential carcinogens and toxic compounds that represent a threat to public health[1] as well as groundwater quality. There is also evidence that although leachates are highly pollutional, once they pass into surrounding soils, various soil interactions (dilution, absorption and microbial degradation) may tend to reduce impacts of this loading on underlying groundwater quality.[2] The IRWMP notes that groundwater in the vicinity of the Benton Crossing landfill is monitored with a series of wells to detect groundwater quality changes resulting from materials leaching out of the landfill, and reports that low concentrations (1-2 ppb) of three volatile organic compounds have been detected in these wells. The concentrations are well below the maximum contaminant levels, and appear to be stable. Some research has shown that groundwater monitoring systems may not effectively identify pollution (during and following closure) due to aging of monitoring system components and limitations on the range of chemicals that can be effectively monitored.[3]

Issues associated with landfill leachates and active and post-closure monitoring may increase as the population of Mono County increases from 5,968 as of 2010 to the anticipated build-out total of 48,702. It is again noted, however, that both the direct and cumulative impacts will be no greater under the proposed *RTP/General Plan Update* than would occur under the existing *General Plan* because the changes in land use designation are comparatively minor (largely a result of the fine-tuning that was made possible with use of GIS and polygon analysis, as well as General Plan Amendments approved since 2001, and refinements to planning area designations and boundaries). The only substantive change involves the proposed repeal of the Conway Ranch Specific Plan, which would re-designate approximately 855 acres of land currently shown as Specific Plan to Open Space, with an additional three acres of land currently developed with single-family homes would be re-designated from Specific Plan to Single-Family Residential (a change that would reduce direct and cumulative impacts). Landfill closure, once accomplished, is anticipated to provide a significant reduction of threat to water quality as the impermeable cap eliminates infiltration, and landfill gas systems (LFG) that will be part of closure construction will also reduce those threats to water quality.

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[1] Lee, G.F., Jones-Lee, A., G,. Fred Lee and Associates, *Impact of Municipal and Industrial Non-Hazardous Waste Landfills on Public Health and the Environment: An Overview*, prepared for Cal EPA's Comparative Risk Project, May 1994.

[2] Zanoni, A.E., *Groundwater Pollution and Sanitary Landfills, A Critical Review,* presented at the National Groundwater Symposium, 1971.

[3] Lee, G.F., Jones-Lee, A., G. Fred Lee and Associates, *Review of Potential Impacts o Landfills and Associated Postclosure Cost Issues.* April 2012.

As a participant in the Inyo-Mono Integrated Regional Water Management Plan, the coordination of *Draft RTP/General Plan* policies with the IRWMP has been a priority for Mono County. EIR §4.8, Table 4.8-7, provides a detailed summary of how IRWMP objectives and management strategies are proposed to be incorporated into the County's ongoing planning effort. As noted therein, the strategies and policies cover a wide range of objectives including water supply protections, water quality enhancements, stewardship of water-dependent natural resources, maintenance of water and sanitation infrastructure, tools to address climate variability and reduce GHG emissions, integration of disadvantaged and small communities into the IRWM planning process, sustainable management of floodplain and stormwater systems, sound groundwater monitoring and management (interestingly, none of the IRWMP strategies and policies address landfills, either during operation or after closure).

In combination, these strategies and policies and actions will reduce the direct and cumulative impacts on water supplies, soils, water quality, erosion and watershed management; the degree of benefit achieved will depend on how the various programs are developed, managed and funded. EIR §4.8 also provides information requested in NOP comments received from the LRWQCB, including information about hydrologic units in Mono County, General Plan activities that may require permits issued by LRWQCB or the Water Board, a request that County policies reflect strategies recommended in the IRWMP for watershed management, emphasis on use of Low-Impact Development and associated stormwater control measures as the best way to reduce impacts to watersheds, and recommendations that Mono County identify existing sources of hydro-modification and develop appropriate mitigation measures and that the County also consider use of recycled water as a General Plan Management Strategy.